

WE CLAIM:

1. An image diagnosis supporting device comprising:

digitizing means for applying predetermined image processing to a medical image and generating a multi-valued image;

extracting means for executing at least one decision making processing routine on said multi-valued image generated by said digitizing means and extracting an abnormal candidate shadow;

display means for displaying in said medical image said abnormal candidate shadow extracted by said extracting means so that it is easily identifiable;

means for fixing a display position of the abnormal candidate shadow extracted by said extracting means on a predetermined area of a display screen of said display means; and

control-display means for shifting a display position of said medical image so that said abnormal candidate shadow is displayed on the predetermined area of the display screen of said display means, fixed by said fixing means, and control-displaying the medical image including said abnormal candidate shadow.

2. The image diagnosis supporting device according to claim 1, wherein said control-display means comprises means for displaying in said medical image or an area other than said medical image the abnormal candidate shadow extracted by said extracting

means each time one of said extraction processing routines is completed.

3. The image diagnosis supporting device according to claim 1, wherein said control-display means comprises means for displaying a magnified image of an area magnified image of an area including said abnormal including said abnormal candidate shadow in said medical image or an area other than said medical image.

4. The image diagnosis supporting device according to claim 1, wherein said control-display means comprises means for controlling an order of display of said abnormal candidate shadow according to its position in said medical image and displaying said medical image.

5. The image diagnosis supporting device according to claim 4, wherein said control-display means comprises means for controlling the order of display of said abnormal candidate shadow according to its pointing device operating position in said medical image and displaying said medical image having said abnormal candidate shadow near said operating position.

6. The image diagnosis supporting device according to claim 1, wherein said control-display means comprises means for displaying a marker surrounding said abnormal candidate shadow extracted by said extracting means.

7. The image diagnosis supporting device

according to claim 6, wherein said extracting means comprises means for detecting focus certainty of said extracted abnormal candidate shadow, and said control-display means comprises means for displaying said marker in a different display form based on said detected focus certainty.

8. The image diagnosis supporting device according to claim 6, wherein said control-display means comprises means for contrast-highlighting or gamma processing-highlighting the area surrounded by said marker and clearly displaying said abnormal candidate shadow.

9. The image diagnosis supporting device according to claim 1, wherein said control-display means does not provide said identifiable display for a medical image of which reading by a doctor is not completed.

10. An image diagnosis supporting device comprising:

digitizing means for applying predetermined image processing to a medical image and generating a multi-valued image;

extracting means for executing at least one decision making processing routine on said multi-valued image generated by said digitizing means and extracting an abnormal candidate shadow;

display means for displaying in said medical image said abnormal candidate shadow extracted by said

extracting means so that it is easily identifiable;

means for detecting a display position of an abnormal candidate shadow immediately following the medical image that is currently displayed when said medical images are sequentially displayed on said display means while changing a slice position at which said medical images are adjacent to each other; and

control-display means for control-displaying on said display means information of the display position of the abnormal candidate shadow detected by said detection means and said medical image that is currently displayed.

11. The image diagnosis supporting device according to claim 10, wherein said control-display means comprises means for displaying a magnified image of an area including said abnormal candidate shadow in said medical image or an area other than said medical image.

12. The image diagnosis supporting device according to claim 10, wherein said control-display means comprises means for controlling an order of display of said abnormal candidate shadow according to its position in said medical image and displaying said medical image.

13. The image diagnosis supporting device according to claim 12, wherein said control-display means comprises means for controlling the order of display of said abnormal candidate shadow according to

its pointing device operating position in said medical image and displaying said medical image having said abnormal candidate shadow near said operating position.

14. The image diagnosis supporting device according to claim 10, wherein said control-display means comprises means for displaying a marker surrounding said abnormal candidate shadow extracted by said extracting means.

15. The image diagnosis supporting device according to claim 14, wherein said extracting means comprises means for detecting focus certainty of said extracted abnormal candidate shadow, and said control-display means comprises means for displaying said marker in a different display form based on said detected focus certainty.

16. The image diagnosis supporting device according to claim 14, wherein said display means comprises means for erasing overlapped areas and providing display if markers overlap each other as they surround a plurality of said abnormal candidate shadows.

17. The image diagnosis supporting device according to claim 14, wherein said control-display means comprises means for contrast-highlighting or gamma processing-highlighting the area surrounded by said marker and clearly displaying said abnormal candidate shadow.

18. The image diagnosis supporting device

according to claim 10, wherein said control-display means does not provide said identifiable display for a medical image of which reading by a doctor is not completed.

19. An image diagnosis supporting device comprising:

digitizing means for applying predetermined image processing to a medical image and generating a multi-valued image;

extracting means for executing at least one decision making processing routine on said multi-valued image generated by said digitizing means and extracting an abnormal candidate shadow;

display means for displaying in said medical image said abnormal candidate shadow extracted by said extracting means so that it is easily identifiable;

means for designating a display area in said medical image where an abnormal candidate shadow existed after sequentially displaying said medical images on said display means while changing a slice position at which said medical images are adjacent each other;

means for retrieving a medical image of which the display area is identical in position to the display area designated by said designating means, of said sequentially displayed medical images; and

control-display means for control-displaying on said display means a medical image including the

abnormal candidate shadow retrieved by said retrieving means.

20. The image diagnosis supporting device according to claim 19, wherein said control-display means comprises means for displaying a magnified image of an area including said abnormal candidate shadow in said medical image or an area other than said medical image.

21. The image diagnosis supporting device according to claim 19, wherein said control-display means comprises means for displaying a marker surrounding said abnormal candidate shadow extracted by said extracting means.

22. The image diagnosis supporting device according to claim 21, wherein said extracting means comprises means for detecting focus certainty of said extracted abnormal candidate shadow, and said control-display means comprises means for displaying said marker in a different display form based on said detected focus certainty and providing display.

23. The image diagnosis supporting device according to claim 21, wherein said display means comprises means for erasing overlapped areas and providing display if markers overlap each other as they surround a plurality of said abnormal candidate shadows.

24. The image diagnosis supporting device according to claim 21, wherein said control-display

means comprises means for contrast-highlighting or gamma processing-highlighting the area surrounded by said marker and clearly displaying said abnormal candidate shadow.

25. The image diagnosis supporting device according to claim 19, wherein said control-display means does not provide said identifiable display for a medical image of which reading by a doctor is not completed.

26. An image diagnosis supporting device comprising:

digitizing means for applying predetermined image processing to a medical image and generating a multi-valued image;

extracting means for executing at least one decision making processing routine on said multi-valued image generated by said digitizing means and extracting an abnormal candidate shadow;

display means for displaying in said medical image said abnormal candidate shadow extracted by said extracting means so that it is easily identifiable;

means for reading medical images immediately following and immediately preceding the medical image that is currently displayed when said medical images are sequentially displayed on said display means while changing a slice position at which said medical images are adjacent to each other; and

control-display means for control-displaying



the immediately following and immediately preceding medical images read by said reading means on display areas of said display means adjacent to said image that is currently displayed.

27.           The image diagnosis supporting device according to claim 26, wherein said control-display means comprises means for displaying a magnified image of an area including said abnormal candidate shadow in said medical image or an area other than said medical image.

28.           The image diagnosis supporting device according to claim 26, wherein said control-display means comprises means for controlling an order of display of said abnormal candidate shadow according to its position in said medical image and displaying said medical image.

29.           The image diagnosis supporting device according to claim 28, wherein said control-display means comprises means for controlling the order of display of said abnormal candidate shadow according to its pointing device operating position in said medical image and displaying said medical image having said abnormal candidate shadow near said operating position.

30.           The image diagnosis supporting device according to claim 26, wherein said control-display means comprises means for displaying a marker surrounding said abnormal candidate shadow extracted by said extracting means.

31. The image diagnosis supporting device according to claim 30, wherein said extracting means comprises means for detecting focus certainty of said extracted abnormal candidate shadow, and said control-display means comprises means for displaying said marker in a different display form based on said detected focus certainty and providing display.

32. The image diagnosis supporting device according to claim 30, wherein said display means comprises means for erasing overlapped areas and providing display if markers overlap each other as they surround a plurality of said abnormal candidate shadows.

33. The image diagnosis supporting device according to claim 30, wherein said control-display means comprises means for contrast-highlighting or gamma processing-highlighting the area surrounded by said marker and clearly displaying said abnormal candidate shadow.

34. The image diagnosis supporting device according to claim 26, wherein said control-display means does not provide said identifiable display for a medical image of which reading by a doctor is not completed.